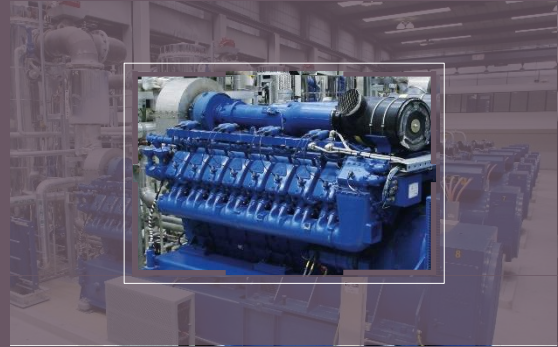


# NATERIA MX 40



Low Ash High TBN semi-synthetic gas engine oil for use in modern steel piston engines operating under extreme temperatures.



## APPLICATIONS

**NATERIA MX 40** is a new generation low ash gas engine oil, specially designed to :

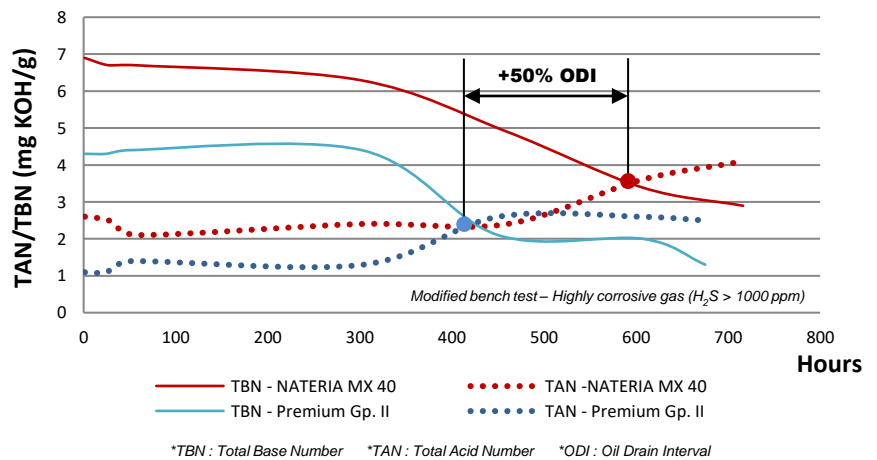
- Enhance detergency at high temperatures
- Extend oil drain interval
- Optimize valve recession and wear control

**NATERIA MX 40** is engineered to meet the harshest conditions in latest generation steel piston engines operating with higher temperatures, reduced oil specific consumption and higher Brake Mean Effective Pressure over 22 bars (BMEP).

**NATERIA MX 40** is the product of choice for multi-OEM engine fleets and cogeneration applications.

## LONGER OIL LIFE

**Unique technology** combining exceptional alkalinity reserve (TBN) and low ash properties. Depending on operating conditions, **NATERIA MX 40** has proven to deliver up to **50% longer drain intervals** against premium Gp. II gas engine oils.



## CUSTOMER BENEFITS

- ✓ Up to 50% longer oil drain intervals
- ✓ Higher durability of engine components
- ✓ Reduced downtime
- ✓ Maintenance streamlining

## ADVANCED VARNISH CONTROL

**NATERIA MX 40** provides extraordinary detergency and varnish protection under extremely high temperatures.

PANEL COKER TEST (PCT*)	Premium Competitor 1	Premium Competitor 2	NATERIA MX 40
<b>NATERIA MX 40</b> demonstrated a higher thermal stability without varnish formation when compared to premium gas engine oils.			
	6,5/10	7,3/10	9,6/10

\* PCT – Jenbacher method – 24h at 288°C  
Rating on oil deposit control performance.

## TECHNICAL DATA – NATERIA MX 40

CHARACTERISTICS	METHODS	UNITS	TYPICAL VALUES
SAE Grade	-	-	40
Density at 15°C	ISO 3675	kg/m3	883.3
Kinematic viscosity at 40°C	ISO 3104	mm²/s	122.5
Kinematic viscosity at 100°C	ISO 3104	mm²/s	13.9
Viscosity index	ISO 2909	-	111
Flash point COC	ISO 2592	°C	266
Pour Point	ISO 3016	°C	-39
Sulfated ash	ISO 3987	% wt	0.51
TBN	ASTM D 2896	mg KOH/g	7.2
TAN	ASTM D 664	mg KOH/g	1.4
Distillation loss at 250°C – Noack Test	CEC L-40-A-93	%	4.6
FZG gear rig	DIN 51354-2	Failure Load Stage	11
PDSC oxidation test	CEC-L-85-99	min	>195
Foaming test			0/0
- Seq I			10/0
- Seq II	ISO 624	mL/mL	0/0
- Seq III			0/0
Foaming test at 150°C	ASTM D 6082	mL	160 - 20

### APPROVALS

- ✓MWM TCG 2016 / 2020 / 2032
- ✓MWM TCG 3016 / 3020
- ✓CAT CG 132 / 170 / 260
- ✓CAT CG 132B / 170B
- ✓Caterpillar 3500 Series
- ✓Wärtsilä 34 / 50 SG
- ✓Jenbacher Type 2&3
- ✓Jenbacher Type 4A, B, C, E
- ✓Jenbacher Type 6C, E, F, J, H, K
- ✓Rolls Royce Bergen B35:40, B36:45 (trial in progress)
- ✓Waukesha VGF, VHP, 275GL/GL+, APG (non co-gen application)

### SUPERIOR ENGINE CLEANLINESS

**10.000 hours field test,  
MWM TCG 2016V16**

The piston rings and grooves showed no coke build-up nor discoloration while the cylinder head covers were clean and free of any oil sludge.

The outstanding cleanliness results prove the effectiveness of **NATERIA MX 40's** proprietary semi-synthetic formulation.

Piston



Piston Ring Grooves



### OIL MONITORING

Take out the best of your engines by implementing ANAC GAS oil monitoring program.



### SHELF LIFE

Shelf life is 3 years for unopened drums.

### STORAGE

Store the product away from humidity at temperatures not exceeding 35°C.

Total Lubrificants  
INDUSTRY & SPECIALTIES  
08-10-2020  
NATERIA MX 40

This lubricant used as recommended and for the application for which it has been designed does not present any particular risk.  
A material safety data sheet conforming to the regulations in use in the E.C. is obtainable via your commercial adviser [sdstotalms.total.com](mailto:sdstotalms.total.com).



**TOTAL**

Committed to Better Energy